AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE			PAGE OF PAGES 1 1
2. AMENDMENT/MODIFICATION NO. 0003	3. EFFECTIVE DATE 2 SEP 98	4. REQUISITION/PURCHA	SE REQ. NO).	5. PROJECT N	NO. (If applicable)
6. ISSUED BY CODE		7. ADMINISTERED BY (If other than Item 6) CODE				
Department of the Army Corps of Engineers Fort Worth District						
8. NAME AND ADDRESS OF CONTRACTOR (No., street,	county, State and ZIP Code)		(, ,	AMENDMEN	T OF SOLICITA -B-0041	ATION NO.
				DATED (SEE JULY 199	,	
			H			TRACTS/ORDER
	T		10B.	. DATED (SE	EE ITEM 13)	
CODE 11. THIS ITE	FACILITY CODE FM ONLY APPLIES 1	O AMENDMENTS OF S	OLICITAT	TIONS		
The above numbered solicitation is amended as set f					ended, is	s not ex-
tended. Offers must acknowledge receipt of this amendment prior to the second	o the hour and date specific	ed in the solicitation or as amend	led by one o	of the followin	a methods:	
(a) By completing Items 8 and 15, and returning submitted; or (c) By separate letter or telegram which inclu MENT TO BE RECEIVED AT THE PLACE DESIGNATED IN REJECTION OF YOUR OFFER. If by virtue of this amer letter, provided each telegram or letter makes reference to	copies of the amendm des a reference to the solic FOR THE RECEIPT OF OF	nent; (b) By acknowledging recei itation and amendment numbers FERS PRIOR TO THE HOUR A	ot of this ame FAILURE C	endment on e OF YOUR AC PECIFIED M.	each copy of the KNOWLEDG- AY RESULT	e offer
12. ACCOUNTING AND APPROPRIATION DATA (If requi	red)					
		ODIFICATIONS OF CON			6,	
A. THIS CHANGE ORDER IS ISSUED PURSUANT TRACT ORDER NO. IN ITEM 10A.	TO: (Specify authority) TH	E CHANGES SET FORTH IN IT	EM 14 ARE N	MADE IN THE	E CON-	
B. THE ABOVE NUMBERED CONTRACT/ORDER appropriation date, etc.) SET FORTH IN ITEM 14.	IS MODIFIED TO REFLEC PURSUANT TO THE AUT	T THE ADMINISTRATIVE CHAN HORITY OF FAR 43.103(b).	IGES (such a	ıs changes in p	paying office,	
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERI	ED INTO PURSUANT TO A	AUTHORITY OF:				
D. OTHER (Specify type of modification and authority)						
E. IMPORTANT: Contractor is not,	is required to s	ign this document and re	turn	col	pies to the i	ssuing office.
14. DESCRIPTION OF AMENDMENT/MODIFICATION (O) The Solicitation for AMMO SUPPLY POIN' follows:						amended as
a. Standard Form 1442, Item 13.A In the s Bid Opening time is 2 p.m., local time.	econd line, change th	ne Bid Opening date from	n "9 Septe	ember 199	98" to "11 S	eptember 1998".
b. Specifications The following attached no SOLICITATION NO. DACA63-98-B-0041"	ew Section, bearing t shall be added to the	he notation "ACCOMPA e specifications:	NYING A	AMENDN	MENT NO.	0003 TO
SECTION 02933 - ESTABLISHMENT (
NOTE: Amendment No. 0002 was mailed o	•					
Except as provided herein, all terms and conditions of the cand effect.	locument referenced in Iten	n 9A or 10A, as heretofore chang	jed, remains	unchanged a	and in full force	
15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OI	CONTRAC	TING OFFIC	ER (Type or pr	int)
15B. CONTRACTOR/OFFEROR	15C. DATE SIGN		AMERICA			16C. DATE SIGNED
(Signature of person authorized to sign)		BY(Signat	ure of Contra	acting Officer	·)	

SECTION 02933 - ESTABLISHMENT OF TURF

PART 1 - GENERAL

This guide specification covers the Fort Worth District requirements for revegetation including seeding to establish native grasses on the new magazines which will be constructed and other disturbed areas as specified in the contract for the Ammunition Supply Point project at McGreggor Range, Ft. Bliss, Texas.

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS (AOAC)

AOAC-01

Official Methods of Analysis

UNITED STATES DEPARTMENT OF AGRICULTURE (USDA)

USDA Part 201

Federal Seed Act Regulations

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. Six copies each of the following shall be submitted in accordance with Section 01300 SUBMITTAL PROCEDURES and prior to commencement of planting operations:

SD-07 Schedules

Turfing Equipment List; FIO.

Prior to planting operations, the Contractor shall furnish for approval, notification of the types of equipment, including descriptive data, he/she proposes to use in turfing operations such as preparation of ground surface, smoothing, seeding, mulching, and compacting.

SD-09 Reports

Seed; FIO.

Test reports of samples of seed shall be signed and certified by the testing laboratory. Testing laboratories used by the Contractor shall be approved by the Contracting Officer.

SD-13 Certificates

Seed; FIO.

The Contracting Officer shall be furnished signed copies of certificates from the seed vendor, certifying that each container of seed delivered is labeled in accordance with Federal Seed Act and is at least equal to requirements specified. This certification shall be obtained from the vendor and shall be furnished on or with all copies of seed invoices.

SD-18 Records

Signed, certified copies of the following reports shall be submitted.

Seed Invoices; FIO.

Invoices shall be obtained from the vendor.

Official Seed Analysis or Official Seed Tags; FIO.

Obtained from the vendor. The official seed analysis or the official seed tags shall be furnished with all copies of the seed invoices.

Notification of Sources; GA.

The Contractor shall notify the Contracting Officer for approval, in writing, the sources from which the following materials will be furnished:

Mulch Soil Seed

1.3 INSPECTION AND TESTS

1.3.1 Seed

Each lot of seed may be sampled and tested, in accordance with latest USDA Rules and Regulations under the Federal Seed Act, at the discretion of the Contracting Officer. Such sampling and testing shall be made by or under the supervision of the Government. If these tests reveal the seed to be below the specified pure live seed content, the Contractor shall be required to plant additional seed to compensate for the deficiency at no additional cost to the Government. The seed test will be conducted by the State Seed Laboratory. Allowance will be made for the actual pure live seed content in determining the actual planting rate.

1.3.2 Mulch

Not less than five days prior to commencement of mulching operations the Contracting Officer shall be notified of sources from which mulch materials are available and the quantities thereof. Representative samples of the material proposed for use shall be submitted for approval. A weight certificate signed by a public weigher shall be furnished for each load of mulch used on the site. The weight certificates shall be furnished prior to applying the mulch. The mulch material shall be unloaded and stacked in an orderly manner.

1.3.3 Soil

Not less than five days prior to the commencement of soil backfill, the Contracting Officer shall be notified of the source from which soil for repairs is to be furnished. The material will be inspected to determine whether the selected soil meets the requirements. The soil shall be subject to approval prior to use.

1.4 PAYMENT

No payment or partial payment will be made for work covered by this section of the specifications until all portions of this section, including maintenance of turfing work, are adequately performed and accepted, as determined by the Contracting Officer.

1.5 DELIVERY AND STORAGE

1.5.1 Delivery

1.5.1.1 Seed

Seed shall be furnished in sealed, standard containers unless written exception is granted.

1.5.2 Storage

1.5.2.1 Storage Area

Materials shall be stored in areas designated by the Contracting Officer.

1.5.2.2 Seed

Seed shall be stored in dry locations away from contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 Seed

Seed labeled in accordance with USDA Rules and Regulations under the Federal Seed Act shall be furnished. Seed that is wet or moldy or that has been otherwise damaged in transit or storage will not be acceptable. The seed shall be free of field bindweed, hedgeweed, and nutgrass seed.

Seed shall not contain other noxious weed seed in excess of the limits allowable under the Federal Seed Act and applicable State seed laws. Seed labeled as mixture or pasture mixture will not be acceptable. Each seed container shall bear the date of the last germination which date shall be within a period of 6 months prior to commencement of planting operations.

2.1.1.1 Seed Mixture

The following seed mixture shall be provided to meet application requirements. Weed seed shall not exceed one percent.

Kind o	Pounds of Pure	Hulled or	
Common Name	<u>Scientific Name</u>	Live Seed <u>Per Acre</u>	<u>Unhulled</u>
Lehman Lovegrass Black Grama Sand Dropseed Green Sprangletop	Eragrostis lehmanniana Bouteloaua eriopoda Sporobolus cryptandrus Leptochloa dubia	4 lbs. 5 lbs. 4 lbs. 8 lbs.	Unhulled Unhulled Unhulled Unhulled

NOTE: % Purity times (% Germination plus % hard or dormant seed) = % pure live
100
seed

2.1.2 Mulch

Acceptable mulch shall be baled, bright, native prairie hay, such as broomsedge bluestem, little bluestem, big bluestem, switchgrass, and indiangrass, or hay of other grasses and sedges having the equivalent in leafiness, structure and fibre strength. Bermudagrass hay, cereal grain straw (such as oat and wheat), and forage sorghums, including johnsongrass, will not be acceptable. Hay material which has passed through a seed harvesting combine or a thresher will not be acceptable. A minimum of 50 percent of weight of the herbage making up the material shall be 10 inches in length or longer. Mulch material which contains an excessive quantity of mature seed of noxious weeds or other species, including crops which would be detrimental to the grasses planted on the mulched areas or provide a menace to surrounding farm lands, will not be acceptable. Discolored, weathered, brittle hay or any hay harvested during the dormant season will not be acceptable.

2.1.3 Soil

The soil used shall be of at least equal quality to that which exists in areas adjacent to the areas being seeded. Soil shall be used that is free from tree roots, stones, and other materials that hinder grading, planting, and maintenance operations and that is free from noxious and other objectionable weed seeds and toxic substances. Soil for repairs shall be obtained from approved sources.

PART 3 - EXECUTION

3.1 GENERAL

The turfing work shall be accomplished only when satisfactory results can be expected during periods indicated in PART 3 paragraph PLANTING SEASON. When conditions such as drought, excessive moisture, high winds, or other factors prevail to such an extent that satisfactory results are not likely to be obtained, the Contracting Officer may, at his own discretion, stop any phase of the work. The work shall be resumed only when, in the opinion of the Contracting Officer, the desired results are likely to be obtained. All turfing operations shall be conducted across the slope. Hydromulching will not be accepted.

3.2 PLANTING SEASON

The planting season for grasses shall be from 15 July to 15 September; planting shall be accomplished during the first planting season, or portion thereof (but not less than 15 days), following substantial completion of construction. Revegetation shall coincide with the effective rainy season, 1 August to 15 September.

3.3 REPAIR WORK

Repair work shall be done on the slopes of areas where gullies have occurred, as required by the Contracting Officer. The entire fill in gullies shall be compacted by the tractor wheels as the soil is placed and spread. Repairs shall be accomplished on slopes damaged prior to or during accomplishment of turfing work. The damaged slopes shall be repaired to re-establish the condition and grade of the soil prior to the damage as directed by the Contracting Officer. Repair work shall be done to the extent and at the locations directed by the Contracting Officer. Reseeding shall be accomplished on previously seeded areas after repairs are completed.

3.4 SMOOTHING

Smoothing shall be done on areas to receive turfing as directed by the Contracting Officer. Smoothing shall be done on gullied areas, where grades cannot be restored and gullies filled by the specified tillage operations. Smoothing shall be done, where required, to facilitate seeding operations. Smoothing shall be done with a bulldozer, maintainer or other approved blade equipment.

3.5 PREPARATION OF GROUND SURFACE

Equipment, in good condition, shall be provided for the proper preparation of the ground. Equipment shall be subject to approval before work is started.

3.5.1 Clearing

Prior to grading and tilling, vegetation that may interfere with operations shall be mowed, grubbed, and raked. The collected material shall be removed from the site. The surface shall be cleared of stumps,

and stones larger than 1 inch in diameter, and roots, cable, wire, and other materials that might hinder the work or subsequent maintenance shall also be removed.

3.5.2 Grading

Previously established grades shall be maintained on the areas to be treated in a true and even condition, and necessary repairs shall be made to previously graded areas. All surfaces shall be left in a smooth condition to prevent formation of depressions. Areas having inadequate drainage as indicated by the ponding of water near driveways or on other areas shall be filled or graded to drain as directed by the Contracting Officer. Ruts, deep tracks, dead furrows, and ridges shall be eliminated and the necessary replanting accomplished prior to acceptance of the completed work. Replanting shall be at the same rate and same manner as specified for the original planting. The finished grade shall be such that after the various turfing operations, the planted grade will be one inch below the adjacent surfaced grade of walks, drives, and curbs.

3.5.3 Tillage

After the areas have been brought to the grades shown, tillage shall be accomplished in such manner as to destroy existing vegetation and to prepare an acceptable seed bed. The Contractor shall utilize tractors with adequate horsepower and heavy duty tillage equipment in accomplishing the specified tillage operations. All areas shall be tilled with a heavy duty disk type breaking plow or chisel type breaking plow, followed by disking with a disk harrow, and smoothing with a weighted spike tooth harrow, railroad irons, or bridge timber float drag. When a chisel plow is used the chisels shall be set not to exceed 10 inches apart, and the areas shall be cross or double tilled. Lawn areas shall be left smooth for lawn purposes and other areas shall be left smooth for ease of mowing. Depth of tillage shall be 4 inches.

3.6 PLANTING SEED

The Contractor shall conduct seeding equipment calibration tests in the presence of the Contracting Officer as a means of determining the equipment setting to plant the seed at the specified rates. If unplanted skips and areas are noted after germination and growth of the grass, the Contractor shall be required to seed the unplanted areas with the grass or grasses that were to have been planted at no additional cost to the Government. Seed boxes shall be kept at least half full during seeding operations to insure even distribution of seed over all the areas seeded. Seeding equipment operating on slopes shall be anchored, as required, to prevent downward movement of the equipment and formation of ridges and ruts.

3.6.1 Seeding

The equipment to be used and the methods of planting shall be subject to the inspection and approval of the Contracting Officer prior to commencement of planting operations. The seed shall be planted at the rates indicated in paragraph SEED MIXTURE using a grass drill equiped with double disks, depth bands, covering device, press wheels, seed agitator,

and shall have a positive rate of speed. A grain drill with press wheels shall not be used for seeding. Planting depth shall be from 1/4 inch to 1/2 inch deep. The seed shall be planted after tilling and prior to mulching.

3.7 PROTECTION

The seeded areas shall be protected against traffic or other use by erecting barricades immediately after seeding is completed and by placing warning signs of a type approved by the Contracting Officer on the various areas. Such protective devices shall be maintained until completion of all work under this contract.

3.8 MULCHING AREAS

3.8.1 Applying Mulch

Mulch shall be spread uniformly in a continuous blanket, using 3 tons per acre. Mulch shall be spread by hand or by an approved blower-type mulch spreader. Blower-type mulch spreaders shall be adjusted and operated in such manner to prevent excessive breakage of the mulch material. If this cannot be accomplished, the mulch shall be spread by hand. Care shall be exercised to insure that all wire from baled hay is collected as it is removed from the bale and then removed from the site. Mulching shall be started at the windward side of relatively flat areas, or at the upper part of a steep slope, and continued uniformly until the area is covered. The mulch shall not be bunched.

3.8.1.1 Mulching Prior to Planting

During periods when turfing not approved in PART 3 paragraph PLANTING SEASON, or when construction activities cease for more than 21 days, hay mulch shall be applied at the rate of 3 tons per acre following tilling. Hay mulch will then be anchored.

3.8.1.2 Mulching After Planting

Hay mulch shall be applied to seeded area after tilling and seeding during period when seeding is approved in PART 3 paragraph PLANTING SEASON.

3.8.2 Anchoring Mulch

Within 4 hours following spreading, the mulch shall be anchored in the soil to a depth of 2 inches to 3 inches. An approved machine equal to a disk harrow with cupped disks removed and replaced with straight rolling coulters spaced not more than eight inches apart and having edges approximately 1/8 inch wide shall be used to anchor the mulch. The machine shall be weighted and operated in such manner to secure the hay firmly in the ground to form a soil-binding mulch and prevent loss or bunching of the hay by wind. The mulch anchoring machine shall be as manufactured by the Finn Equipment Co. of Cincinnati, Ohio, or approved equal. The mulch machine shall be anchored as required to prevent downward movement of the equipment and the formation of ridges and ruts. Suitable anchoring equipment shall be on hand and ready for use prior to applying the mulch. The coulters shall be at least 10 inches in diameter.

The number of passes needed, not to exceed 3, will be determined by the Contracting Officer.

3.8.3 Maintenance of Mulched Areas

Mulch shall be maintained until all work or designated portions thereof have been completed and accepted. Maintenance shall consist of providing protection against traffic by erecting barricades and placing warning signs as specified in PART 3 paragraph PLANTING SEED. Any damage shall be repaired, and mulch material that has been removed by wind or other causes shall be replaced and secured.

3.9 WATERING AREAS

To minimize stress to new vegetation in semiarid conditions, watering will not be required following revegetation operations. Planting season shall be coordinated with the occurrence of effective rains as specified in paragraph PLANTING SEASON.

3.10 MAINTENANCE OF PLANTED AREAS

3.10.1 General

The Contractor shall maintain all planted areas during the planting period and for an additional period of not less than 120 calendar days following completion of planting operations or replanting operations, if required. Maintenance shall consist of reseeding, maintaining existing grades, and repair of erosion damage as directed by the Contracting Officer.

3.10.2 Stand

A stand shall be defined as the planted areas achieving a uniform live grass coverage having a density where the bare spots and grass heights are consistent with surrounding, unimpacted areas.

3.10.3 Replanting

Green Sprangletop seed should germinate within at least 21 days from planting. If, after that 21-day period a successful germination of a potential stand of grass is not present, the area shall be reseeded prior to the end of the planting season, or within the next 7 days after the 21-day germination period if after the plant season as specified in PART 3 paragraph PLANTING SEASON.

3.10.4 Maintenance of Grades and Repair of Erosion Damage

It shall be the responsibility of the Contractor to maintain the original grades of the planted turf areas after commencement of planting operations and during the specified maintenance period. Any damage to the finished surface from Contractor's operations shall be promptly repaired. In the event erosion occurs from rainfall or wind, such damage shall be repaired within 10 days from the date of the noted damage. Ruts, ridges, tracks, and other surface irregularities shall be corrected and replanted where required prior to acceptance.

3.12 INSPECTIONS

3.12.1 Preliminary Inspection

Prior to the completion of the contract, a preliminary inspection shall be held by the Contracting Officer. The time for the inspection will be established in writing. The acceptability of the revegetation operation shall be determined by the Contracting Officer.

3.12.2 Final Inspection

A final inspection shall be held by the Contracting Officer to determine that deficiencies noted in the preliminary inspection have been corrected. The time for inspection will be established in writing. Final acceptance of the revegetation operation is subject to the guarantee of an acceptable stand as defined in paragraph STAND one year following seeding operation.

- - 0 0 0 - -

ENG FORM 4288	SUBMITTAL REGISTER		* CONTR	ACT NUMBER:				
TITLE AND LOCATION: * CO			* CONTR.	ACTOR:			PECIFICATION stablishment	SECTION: 02933
		========		-======		 =======	=======	
SPECIFICAT TRAN. ITEM PARAGRAP NO. NO. NO. (a) (b) (c)		TYPE OF SUBMITTAL (e)*	CONTRA CLASS SUBMIT (f)** (g)	ACTOR SUBMITTE APPROVAL NEEDED BY (h)	MATERIALS	ACTOR ACTION SUBMIT DATE GOVT (k) (1)	GOVERNMENT TO ACTION CODE DATE (m) (n)	
02933-1.2	TURFING EQUIPMENT	SD-07	FIO					
02933-1.2	SEED	SD-09	FIO			 		
02933-1.2	SEED	SD-13	FIO			 		
02933-1.2	SEED INVOICES	SD-18	FIO			 		
02933-1.2	OFFICIAL SEED ANALYSIS OR OFFICIA SEED TAGS	SD-18	FIO			 		
02933-1.2	NOTIFICATION OF SOURCES	SD-18	GA			 		

 $[\]mbox{*}$ See SECTION 01300 for descriptions of the Types of Submittals.

End of Section

^{**} CLASSIFICATION where GA indicates "Government Approved" submittals AND FIO indicates "For Information Only" submittals.